Challenges in Infrastructure Financing in Developing Countries

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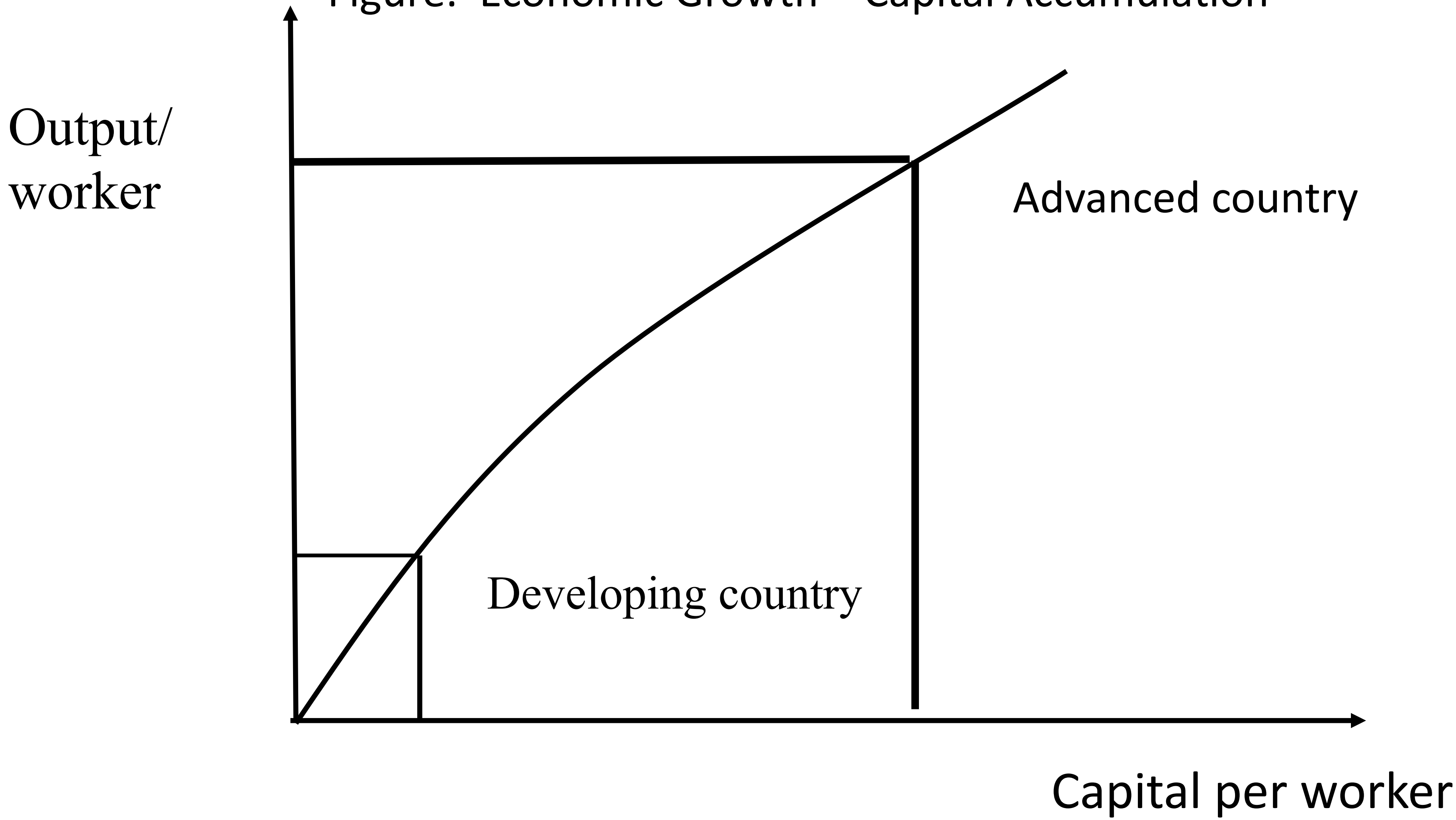
Introduction

- The infrastructure development has suffered significant cuts in many developing countries due to large fiscal deficits and unmanageable public debt.
- A Sharia model is a promising approach to infrastructure development. It precludes interest-debt for financing infrastructure.
- It seeks a coordinated strategy between the government and the private sector for infrastructure development.
- It allows the private sector to participate actively in the construction of infrastructure; therefore it increases considerably the supply of infrastructure.
- It enhances social equity to the extent that the cost of infrastructure does not fall heavily on poor people who may not be using some types of infrastructure.
- It leads to new laws and institutional framework that develop the private investment in infrastructure.

I. Basic Growth Theory: Higher Growth Requires More Economic and Social Infrastructure

- Economic growth depends on capital accumulation; the higher the capital/labor ratio the higher the income per capita.
- Alleviating poverty requires increasing capital in form of housing, machinery, plants, hospitals, schools, etc.
- However, capital accumulation and economic development have been constrained in many countries by the scarcity of saving.
- Existing capital, such as infrastructure, is costly to maintain and may require large renovation such as constructing new ports, new airports, and new highways in response to large and growing traffic.

Figure. Economic Growth = Capital Accumulation



- A fundamental attribution of the government is infrastructure, besides justice, defense, education, and health.

- Infrastructure may be constructed by the state as well as the private sector.

- Customarily, the private sector invested considerably in railroads, turnpikes, airports, bridges, ports, universities, schools, hospitals, communications, water, electricity, and sanitation.

- From a Sharia perspective, the private sector has to be fully involved in infrastructure construction both on profit or non-profit basis. Such involvement avoids interest-based debt; it enhances social justice, and increases considerably economic efficiency; and allows the government to concentrate on infrastructure which addresses better the social welfare and the needs of the poor and where pricing is not desirable or not practical.

- Infrastructure privatization has great social benefits: it enhances social justice and equity.

- Privatization enables to mobilize considerable financial resources, which cannot be easily or justly tapped by taxation, and it will increase significantly the supply of infrastructure in the economy.

- It will bring greater efficiency in allocation of scarce resources; it will bring market prices in economic calculations which will determine the expected market rates of returns to capital and direct capital resources to the most profitable infrastructure projects.

- It will enable the government to concentrate on infrastructure such as streets, highways, roads, schools, hospitals, where it does not wish to apply the price mechanism and where services are provided either free or below cost.

Scenario I: Government only invests in infrastructure		Scenario II: Government and Private Sector invest in infrastructure	
Taxes Loans	$30 $70	Taxes Loans Private savings	$30 $70 $100
Infrastructure	$100	Infrastructure Public infrastructure Private infrastructure	$200 $100 $100
Economic growth rate = 3% Unemployment rate = 8%		Economic growth rate = 6% Unemployment rate = 3%	

II. Developing country with debt crisis: Government Infrastructure Spending Suffers Dire Budget Restraint

- In fact, in the past decades, many developing countries faced foreign debt crisis and had an unmanageable budget with no control on current expenditure. A negative government savings.
- The number of countries under IMF programs was very high. These countries cannot pay their current expenditures without IMF and foreign borrowing.
- In countries with budget imbalance, infrastructure development suffered large cuts; existing infrastructure was too insufficient in relation to population and in decay. Capital spending cuts meant less schools, hospitals, water, electricity, etc.
- Infrastructure was financed mainly through borrowing, often from official lenders, such as development banks. Countries that fell in arrears on their debt payments had seen project disbursements suspended and project implementation stopped.

- Many countries became heavily indebted and were not able to repay their debt. Foreign debt was in part directed to finance government current expenditure and did not contribute to build a capital base for its repayment.

- In case of both well-managed countries as well as countries with serious debt crisis, devolving a substantial part of infrastructure spending to the private sector is a highly promising approach. It enables to increase substantially the resources destined to infrastructure such as schools, airports, highways, sanitation, etc., and therefore to support the economic growth in the country; it avoids recourse to more taxes or more debt for financing infrastructure and its recurrent outlay.

III. Islamic Financing of Economic and Social Infrastructure

- Sharia strictly prohibits any interest-based debt.
- Such prohibition is indeed a blessing for a country because it avoids debt and relieves the government budget from any debt and debt service payments.
- Had debt-stressed countries observed this prohibition in the past, they would have avoided the debt burden that is derailing their development process. They would have prevented squandering and they would have grown much faster than their actual slow performance.

- Sharia permits equity and risk-sharing financing of infrastructure.
- Basically, the government as well as other equity holders become joint owner of an infrastructure project. They contribute with long-term capital and hold non-redeemable property titles called common stocks.
- Stocks can be liquidated only on a secondary markets. The government and private equity holders face the same risk and share dividends as in any joint stock company.
- Besides equity financing, Islamic Sharia permits also securitization of real assets and issuance of asset-backed securities for financing infrastructure. The securitized assets are called sukuks; they have a return generated by the underlying real assets.
- Unlike common stocks, Sukuks are redeemable at a maturity date and may also be liquidated on a secondary market.
- Sukuk financing of infrastrure is widely used in many countries.
- To promote Islamic finance instruments, a country needs to develop a stock market as a vehicle for long-term resources and liquidity.

- An early concession to a private company of a major infrastructure was the Suez Canal which was entrusted by the Egyptian government to a French Company for a period of 99 years.
- This project was highly attractive in 1850 because the volume of trade between Europe and Asia was growing fast in both directions. The project would not have been profitable in the 17^{th} century when trade between Europe and Asia was small.
- The Company completed the project during 1859-1869 and was in charge with its exploitation thereafter until its nationalization in 1956. The equity of the French company was subscribed by private stockholders. The government of Egypt received royalties from the Company.
- The Panama Canal was an example of infrastructure developed and operated by the private sector.
- In Malaysia, the North-South Highway extending over 900 kilometers from Singapore to Thailand was entrusted as a concession to a private company. The company completed the project and runs it on a commercial basis.
- In many countries, utilities, sanitation, railroads are either privately owned, or a joint public-private ownership.

IV. Forms of Arrangements of Private-Public Partnership in Infrastructure

- An infrastructure project can be organized as a private entity and run on a commercial basis with a system of user fees and tolls.
- The government enjoys considerable royalties and taxes on the monopolies it has conceded to the private sector.
- For a selected infrastructure project, a government may establish a public entity that will float equity shares on the stock market, mobilize domestic and foreign resources, and construct the project.
- The entity will manage the project on a commercial basis and generate dividends to be paid to the shareholders.
- The rate of return of the project has to be competitive in relation to the stock market return in major stock exchanges.

- The association between the public and private sector, called private-public partnership (PPP) in the field of infrastructure projects, takes the form of build-operate-and-transfer (BOT) contracts.
- The BOT is a concession agreement between an entity representing the public authority and a private party whereby the private party constructs and operates an infrastructure facility for a fixed time period and after that time period the ownership of the project is transferred to the public authority without any or minimal financial obligations.
- The project specifications are made by the public authorities and the project development and operation is carried out by the private party with full responsibility for specifications.
- The private parties recover their capital cost and expected earnings from the project revenues during the period of the concession. The purchase of project output is guaranteed by the government at a specified fixed price.

- Build, Operate & Renewal of Concession (BORC). It is a BOT, but with an option to re-negotiate the agreement of renewal of contract for operation at the end of a contract period. As a result of the negotiation the operation will either remain with the same project company or the ownership will be transferred to the public authority.
- Build, Own and Operate (BOO) contract. The BOO is a variant of BOT as far as the specifications and obligations are concerned. However, generally BOOs are permanent franchises in which the private party keeps ownership until its performance on obligations is seen satisfactory by the public authority. In this sense it is a hybrid of BOT and BORC.
- Since many infrastructure facilities exist; however, in deteriorating conditions, a government may consider "Rehabilitate, Own and Operate (ROO)" contract. Under an ROO an existing public project is given over to a private firm for rehabilitation according to specifications. The private firm will own the project until it meets the initial conditions.
- The pricing of the user fees is an important aspect for an efficient allocation of resources. Capital has to be invested in projects where it has highest returns. Investors want to acquire shares in projects that pay higher expected return. Pricing of the user fees has therefore to be such as to yield a fair return to investors.

V. Role of the Stock Market in Infrastructure Financing

- To promote private investment in infrastructure, a country has to have appropriate institutional and legal framework, such as laws that deal with concessions and the investment code.
- The political, legal, and institutional environment has to be highly propitious to the private sector. A country with powerful labor unions, high taxation, and complex investment code will not attract private initiative.
- To promote risk-sharing, a country needs to develop a local stock market that can be also integrated to regional stock markets.
- A vibrant stock market is a necessity for mobilizing long-term resources and enhancing liquidity.
- Governments should consider an Islamic approach to infrastructure and innovate in risk-sharing and sukuks emission. Stock markets are an important vehicle for mobilizing domestic and foreign resources and reduce debt financing.

VI. Indonesia: Medium-Term Development Plan 2015-2019: Priority for Infrastructure

The Government of Indonesia has adopted an ambitious development plan (2015-2019). The key macro-targets are:

- Achieve GDP growth of 8% (from a 2014 baseline of 5.1%) and a per capita income over US$6,000 by 2019 (US$3,524 in 2015);
- Improve human development index (HDI) from 73.8 to 76.3;
- Reduce poverty rate from 11% to 7 - 8%, and bring down unemployment to 4 - 5%.

- The Government of Indonesia has planned to mobilize US$1.9 trillion that would be required in terms of investment in various sectors of the economy.
- Under the Infrastructure Development Plan, the Government plans to increase infrastructure investment to 8-9% of GDP annually during the current Development Plan (2015-2019), equivalent to a total projected amount of US$450 billion during 2015-2019.
- The Government (including central and local government and state enterprises) is expected to finance about 70% of total cost of infrastructure development plan (i.e. US$450 billion) while the rest would be raised from the private sector and foreign borrowings particularly through capital markets as well as bilateral and multilateral development partners.
- Indonesia suffers inadequate and poor quality of overall infrastructure (in particular transport networks, electricity supply, and irrigation supply).
- Long-term financing for infrastructure remained in the past and it will likely remain in the future as one of the key constraints to infrastructure development and consequently achieving sustainable economic growth, although the Government of Indonesia is trying to address it through various policy measures.

- The Government plans to merge two state financing bodies (i.e. Sarana Multi Infrastruktur and Perusahaan Investasi Pemerintah) to form a new Infrastructure Bank to facilitate and help finance long-term projects.
- The merger is expected to be completed soon and the Infrastructure Bank will be set up by 2017.
- Indonesia is also playing a major role in a new Chinese-led Asian Infrastructure Investment Bank (AIIB), which will also help country’s long-term funding needs for infrastructure development. It is most likely that Indonesia will be the biggest client of AIIB as it needs significant funding to build new roads, ports and bridges.
- The Government of Indonesia would enhance considerably its infrastructure by allowing an active private sector role in infrastructure development. In fact, financial disequilibria of government budget as well as the high rate of price inflation (6%/year) oblige to foster an important role of the private sector in infrastructure development, especially in areas where private initiative far exceeds the public one in terms of efficiency and adequacy of supply of infrastructure services.

VII. Conclusions

- Infrastructure is a pillar of economic growth. An economy cannot develop without an adequate and expanding infrastructure.
- The construction of infrastructure is a fundamental attribution of the government.
- 100% government infrastructure is not socially optimal.
- 100% private infrastructure is not feasible or desirable.
- A mix of public and private infrastructure depends on political, legal, and institutional framework.
- A large number of governments face large current fiscal deficits and had to cut drastically on infrastructure maintenance and development.
- A new strategy of the government as well as development banks to associate the private sector will be salutary in many countries.
- The legal and institutional framework may have to be drastically revised to attract both domestic and foreign investors in infrastructure.